UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,903	07/09/2003	Koichiro Nakatani	115914	8441

25944 7590 09/25/2006

OLIFF & BERRIDGE, PLC
P.O. BOX 19928
ALEXANDRIA, VA 22320

EXAMINER	
TRAN, DIEM T	
ART UNIT	**PAPER NUMBER**
3748	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/614,903	NAKATANI, KOICHIRO	
	Examiner	Art Unit	
	Diem Tran	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *RCE filed on 6/5/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This office action is in response to a Request for Continued Examination filed on 6/5/06. Overall, claims 1-18 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-4, 6-13, 15-18 are rejected under 35 U.S.C. 102(a) as being anticipated by Nakatani et al. (US Patent 6,679,052).

Regarding claims 1, 7, 8, 10, 16, 17, Nakatani discloses an exhaust emission control apparatus of an internal combustion engine in which combustion is continuously performed at a lean air/fuel ratio, the exhaust emission control apparatus comprising:

a NOx catalyst provided in a looped exhaust passage of the internal combustion engine for storing NOx contained in an exhaust gas at a lean air/fuel ratio flowing into the exhaust passage, and reducing the stored NOx in the presence of a reducing agent in the exhaust gas when the air/fuel ratio of the exhaust gas is lowered; a flow direction of the exhaust gas being reversed within the exhaust passage under predetermined conditions (see Figure 12, see col. 14 ,lines 32-42), a reducing agent supply valve (261) that is provided in the exhaust passage upstream of the NOx catalyst, through which the reducing agent is supplied to the NOx catalyst (see col. 8, lines 38-47), an exhaust state detector that detects a state of the exhaust gas flowing

through the NOx catalyst, and a controller executes a reducing agent supply control by temporarily decreasing the flow rate of the exhaust gas and supplying the reducing agent from the reducing agent supply valve and a correction control to correct a control parameter used in the reducing supply control in accordance with an exhaust state value that is obtained from an output of the exhaust gas state detector after the reducing agent has been supplied from the reducing agent supply valve (see col. 16, lines20+, col. 34, lines 9-32).

Regarding claims 2, 11, Nakatani further discloses that the exhaust state value comprises an oxygen concentration of the exhaust gas (oxygen concentration would be derived from an exhaust gas air fuel ratio)(see col. 34, lines 9-32).

Regarding claims 3, 4, 6, 12, 13, 15, Nakatani further discloses that the controller compares the exhaust state value with a target exhaust state value and corrects the control parameter so as to bring the exhaust state value to the target exhaust state value (see col. 34, lines 25-32).

Regarding claims 9, 18, Nakatani further discloses that the controller controls a length of a time period to supply the reducing agent from the reducing agent supply valve on the basis of the value indicating the state of the exhaust gas (see col. 33, lines 16-45).

Allowable Subject Matter

Claims 5, 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication from the examiner should be directed to Examiner Diem Tran whose telephone number is (571) 272-4866. The examiner can normally be reached on Monday -Friday from 8:30 a.m.- 5:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 800-786-9199 (toll-free).

Diem Tran
Patent Examiner
Art unit 3748

DT

THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700